MODIS Team Member - Quarterly Progress Report
Marine Optical Characterizations
March 1993

Dennis K Clark
NOAA/NESDIS

Preparation and deployment of the Joint US-Mexico bio-optics cruise in the Gulf of California was the major activity during this period. The cruise period extended from 11 March through 17 April which included integration and off-loading time. The El Puma picked up the US and Mexican scientific personnel and equipment in San Diego, California. at the Scripps Marine Facility. A total of twenty-four scientist, technicians and students participated on the cruise. The US participants were:

NOAA/NESDIS - D. Clark and E. King
NASA/GSFC - S. Hooker and L. Rexrode (SeaWiFS Project)
Moss Landing Marine Laboratories - M. Yarbrough, M. Feinholz, Y. Kim, and N. Greene
San Diego State Univ. - C. Trees and D. Sullivan
Univ. of Miami -J. Brown

INSTRUMENTATION DEVELOPMENT

Construction of a housing for the sky state video camera was completed. Maintenance and modifications to the mobile laboratories was completed. Work was completed on the new thermoelectric coolers with circulating water heat exchangers for the Marine Optical System (MOS). A new filter set which approximates the SeaWiFS spectral bands were installed in the Hand Held Contrast Reduction Meter (HHCRM).

Procurement of a Galai laser particle size distribution instrument and a video camera system for a microscope were completed and delivered to the ship. Dave Phinney (Bigelow Laboratory) was trained by the technical representative in the operation of the particle size distribution system. The system had several problems (power supply, software lockups and the new high speed main processing board was cracked) which were rectified to an acceptable degree before departure.

New HPLC calibration standards and techniques are being implemented by CHORS for the Gulf of California Cruise.

The Moss Landing Maine Laboratories CTD rosette water trapping system was rebuilt to accommodate 10 liter Goflow bottles.

MARINE OPTICAL BUOY

Design modifications to the prototype system have been completed. A major effort of

relocating the work site from MBARI to a warehouse in Salinas, CA, with 10,000 sq. ft. of space was completed. A layout of this facility is depicted in Figure 1 with photographs of the work area shown in Figures 2 and 3.

Planning for the MOBY support facility in Hawaii continues. The University of Hawaii's Marine Facility is providing space for MOBY operations i.e. quarterly maintenance and recalibration of the systems. In support of this operation we have acquired three mobile shelters (Desert Storm - Meteorological Station) from government surplus. These shelters will be deployed in Hawaii along with some type of tent structure to provide shelter for the sixty foot MOBY.

SUPPORTING GRANTS AND INTERAGENCY ACTIONS:

The proposal and request for the San Jose State University - Moss Landing Marine Laboratory (MLML) phase three grant is in preparation.

Fifty thousand dollars was transferred from NOAA/NESDIS to Chuck McClain, GSFC, to supplement the MLML contract for prototype MOBY modifications.

SHIP TIME:

One of the major elements of this effort is obtaining independent funding/access to research vessels for dedicated algorithm or validation cruises. Given our ship requirements, we must secure ships which are costing around $12K to $15K per day. This adds Up to approximately $750K to $1,200K Per year depending on the Calibration/Validation tasks.

Requests for NOAA ship time support for the Marine Optical Buoy (MOBY) operational support (mooring deployment and refurbishments) and one bio-optical algorithm development cruise per year were requested for FY-93, FY-94, and FY-95. The request for FY-93 was denied and only twenty-two days of chattered (UNOLS) time was approved for FY-94. This time was for support of the MOBY operations in Hawaii during FY-94. The disposition of the FY-95 request is still under review.

The cooperative arrangement with Mexican Laboratory Centro de Investigation Cientifica Y EDUCATION Superior (CISCE), Ensenada, Mexico, appears to remain solid. The MOCE-2 cruise in the Gulf of California, in which the ship time was totally funded by the Mexicans, was very successful. We are tentatively planning to schedule thirty-five days on the RV El Puma in the fall/winter of 1994/95 to support the SeaWiFS initialization. This ship support could continue through the EOS MODIS launch. Additionally Dr. Octavio Limas Gonzalez, Director of Centro de Tecnologia Pesquera, Gran Canary Island, will provide ship time whenever we can afford the operational effort.

It should be noted that none of the foreign ship support is covered under any formal agreement.

PERSONNEL:

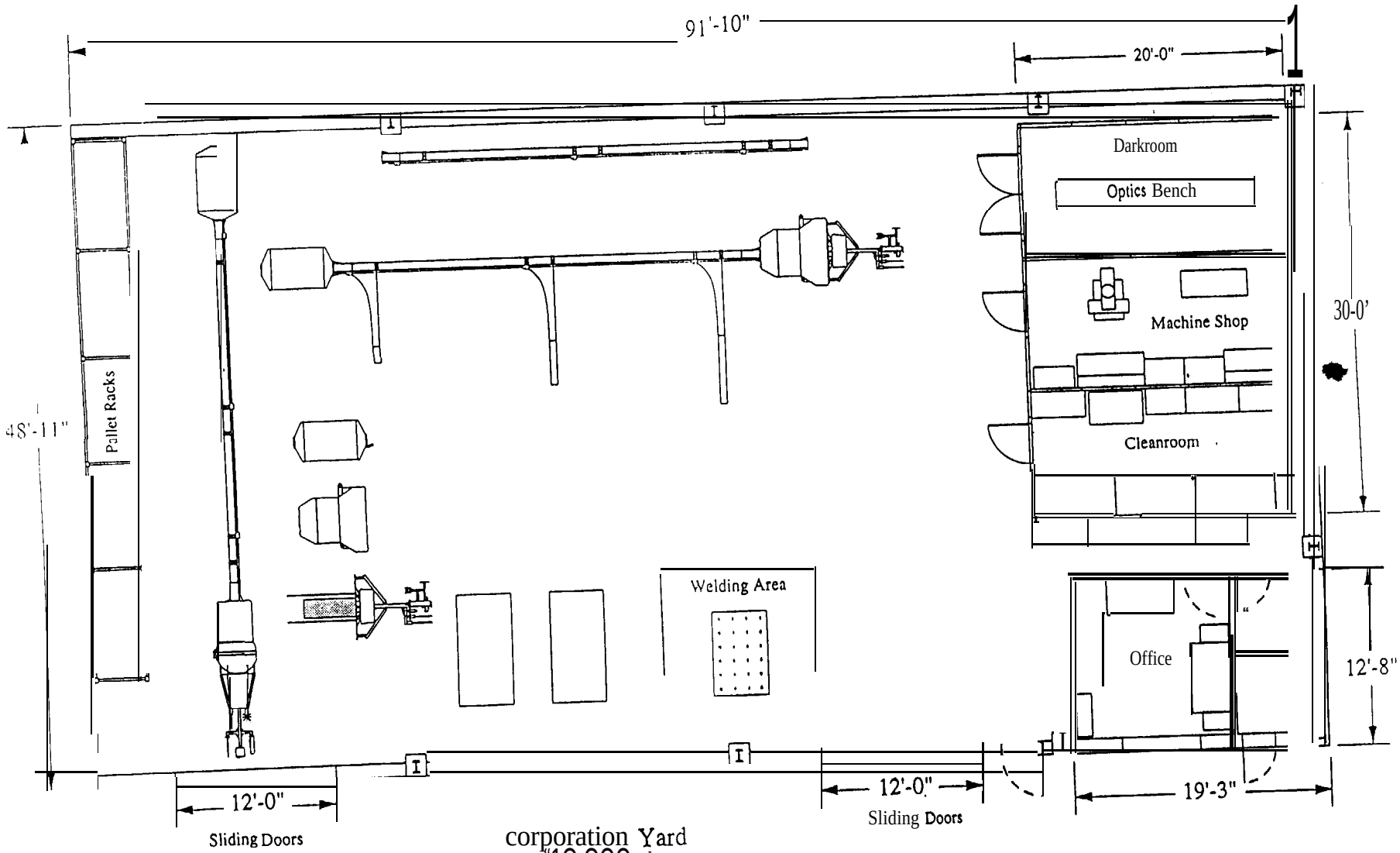
The hiring of two additional civil service persons was initiated. These positions were for a GS-7 Oceanographic Technician and a GS-11 Oceanographer. The technician position was filled and he will report for work at the end of April. The oceanographer position is in the process of being advertised. The positions will provide some relief in the at-sea operations and in the MOCE data processing and quality control tasks.

DATA

Data processing of the MOCE 1 data base continued. The CZCS optical data base is being reformatted and will be transferred to the SeaWiFS Data Archive and to the University of Miami MOTCF for bio-optical algorithm development and testing.

FIGURE 1.

Moss Landing Marine Laboratories
EOS Ocean Color Support Facility



corporation Yard
~10,000 ft²
(Cruise heavy equipment staging)

FIGURE 2.

FIGURE 3.